[redacted]

AC-2-00M-0745

PROGRAM 698 BJ
SYSTEM REVIEW

18 Sept 62

[redacted]

ORIGINAL SPECIFICATIONS
TECHNICAL WORK STATEMENT OF 8 AUGUST 1960

REQUIREMENT:

- ORBITAL PHOTO RECONNAISSANCE SYSTEM WITH HIGH ACUITY CAMERA, LARGE AREA COVERAGE, SHORT LIFE, RELIABLE RE-ENTRY AND ACCURATE RECOVERY IN U.S.

PERFORMANCE:

- 1.1×10^6 NM^2 PER DAY; 9×10^6 NM^2 TOTAL COVERAGE
- 10 FOOT RESOLUTION AT 2:1 CONTRAST
- 120 TO 200 N.M. ALTITUDE
- SHORTEST POSSIBLE OPERATIONAL LIFE-6 DAYS DESIRABLE
- PRINCIPAL POINT LOCATION TO ONE NAUTICAL MILE
- RECOVERY IN CONTINENTAL U.S., 6 N.M. C.E.P.

[redacted]

OPTIMAL SCHEDULE

- FIRST LAUNCH DECEMBER 61.
- TOTAL OF SEVEN LAUNCHES AT FORTY DAY INTERVALS
- OPTION OF TWO AMBIGUITY FLIGHTS.
- EXTENSION OF PROPOSAL SUBMISSION DUE TO REVISED PAYLOAD RESOLUTION
- SCHEDULE TO 9 MARCH 62.

DESIGN CONSIDERATIONS

SPECIFIED LIMITATIONS:

- RE-ENTRY, RECOVERY SYSTEM MUST BE SIGNIFICANT IMPROVEMENT
- MAXIMUM USE OF EXISTING FACILITIES AND FLIGHT PROVEN EQUIPMENT
- RELIABILITY PRIME CONSIDERATION, EARLY CAPABILITY NEXT MOST IMPORTANT
- ASCENT VEHICLE WILL BE ATLAS/AGENA B OR ATLAS ALONE

OPTIONS:

- SELECTION OF LANDING AREA WITHIN THE UNITED STATES
- USE OF AGENA B FOR ATTITUDE CONTROL, SECONDARY POWER, TELEMETRY AND COMMAND, RETRO IMPULSE
- STEREOPHOTOGRAPHY DESIRABLE
- THOR/AGENA COMPONENT TEST FLIGHTS — UP TO 3
- PIGGY-BACK FLIGHTS WITH BALLISTIC SYSTEM TESTS

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SELECTED SYSTEM CONFIGURATION

SELECTED PAYLOAD CONFIGURATION

- TWO 36 INCH FOCAL LENGTH CAMERAS (180° STEREO)
- CAMERA ORIENTED NEAR VERTICAL (FOLDED OPTICS)
- 10 FMC SPEEDS
- TRUSS TYPE STRUCTURE
- SINGLE WINDOW
- WIDE FORWARD CAMERA OVERLAP
- SEPARATE CUTTERS AND SEALS
- 12,000 FEET AT 6.3 INCH IMAGE FILM (50/32)

5

SELECTED RE-ENTRY VEHICLE CONFIGURATION

BALLISTIC VEHICLE

- RVX-2 PROVEN AERODYNAMICALLY SIMILAR (9° SPHERE CONE)
- LESS THERMAL PROTECTION, LOWER WEIGHT THAN MANEUVERABLE VEHICLE
- ABLATION TYPE-G.E. CENTURY SERIES

NEW MAJOR SUBSYSTEMS

- RECOVERY POWER, TELEMETRY AND PROGRAMMING
- FILM CASSETTE
- RECOVERY PACKAGE
- DESTRUCT SYSTEM-THERMITE TYPE

SEPARATION

- EXPLOSIVE BOLTS

MAJOR CONSIDERATIONS
PROPOSED COMMAND & CONTROL
TRACKING
COMMAND
TELEMETRY
TRACKING STATIONS

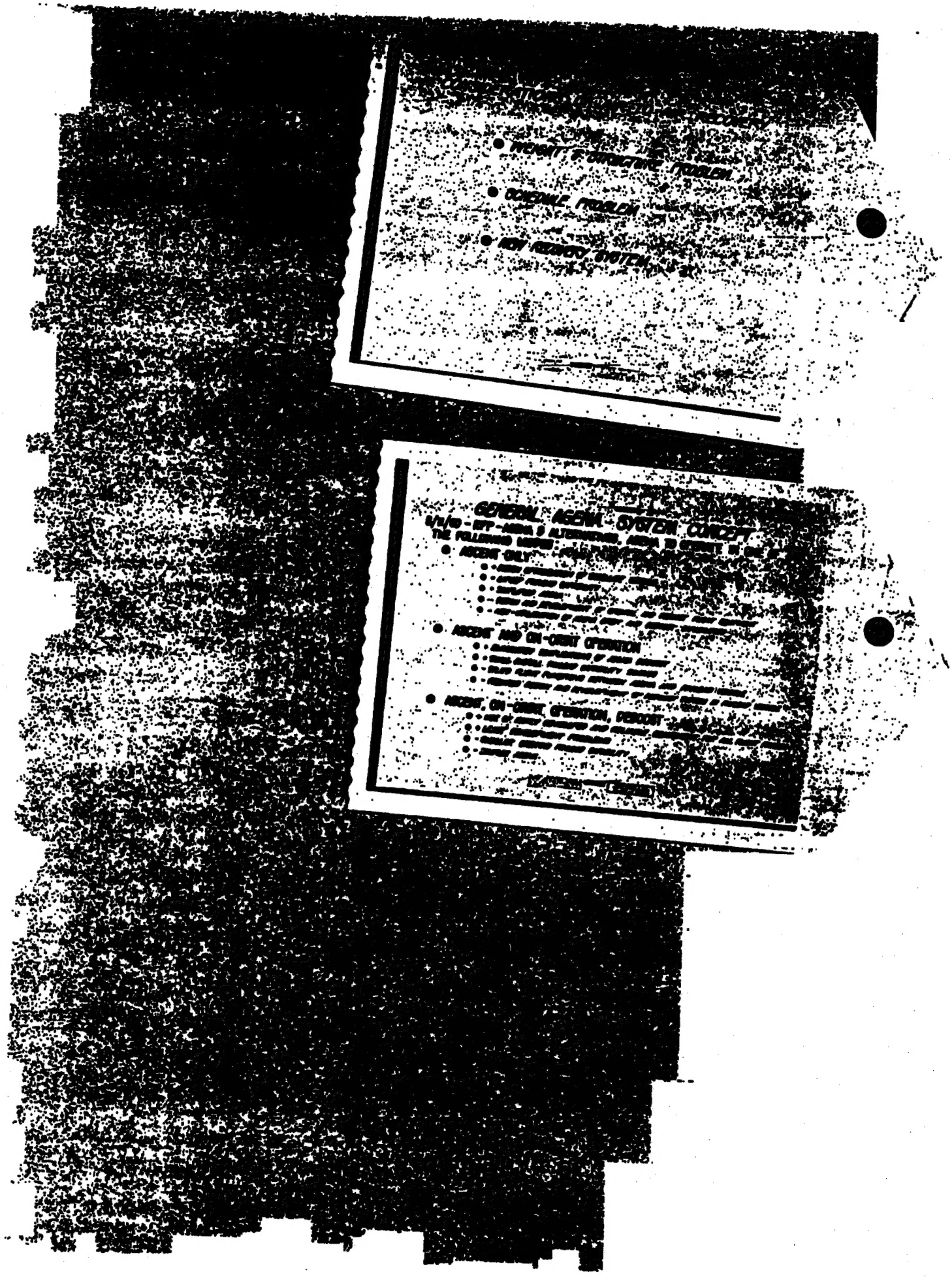
[illegible] OF LAND RECOVERY

- REQUIREMENTS
  - SMALL DEP
  - SOLUTION TO REBOIL PROBLEM
- SOLUTION
  - SEPARATE REBOILER - REJECTED DUE TO DEVELOPMENT AND BOILING PROBLEMS

CONSIDERATIONS OF SIMPLIFIED COMMAND SYSTEM

DISCOVERER COMMAND SYSTEM UNUSEABLE BECAUSE:

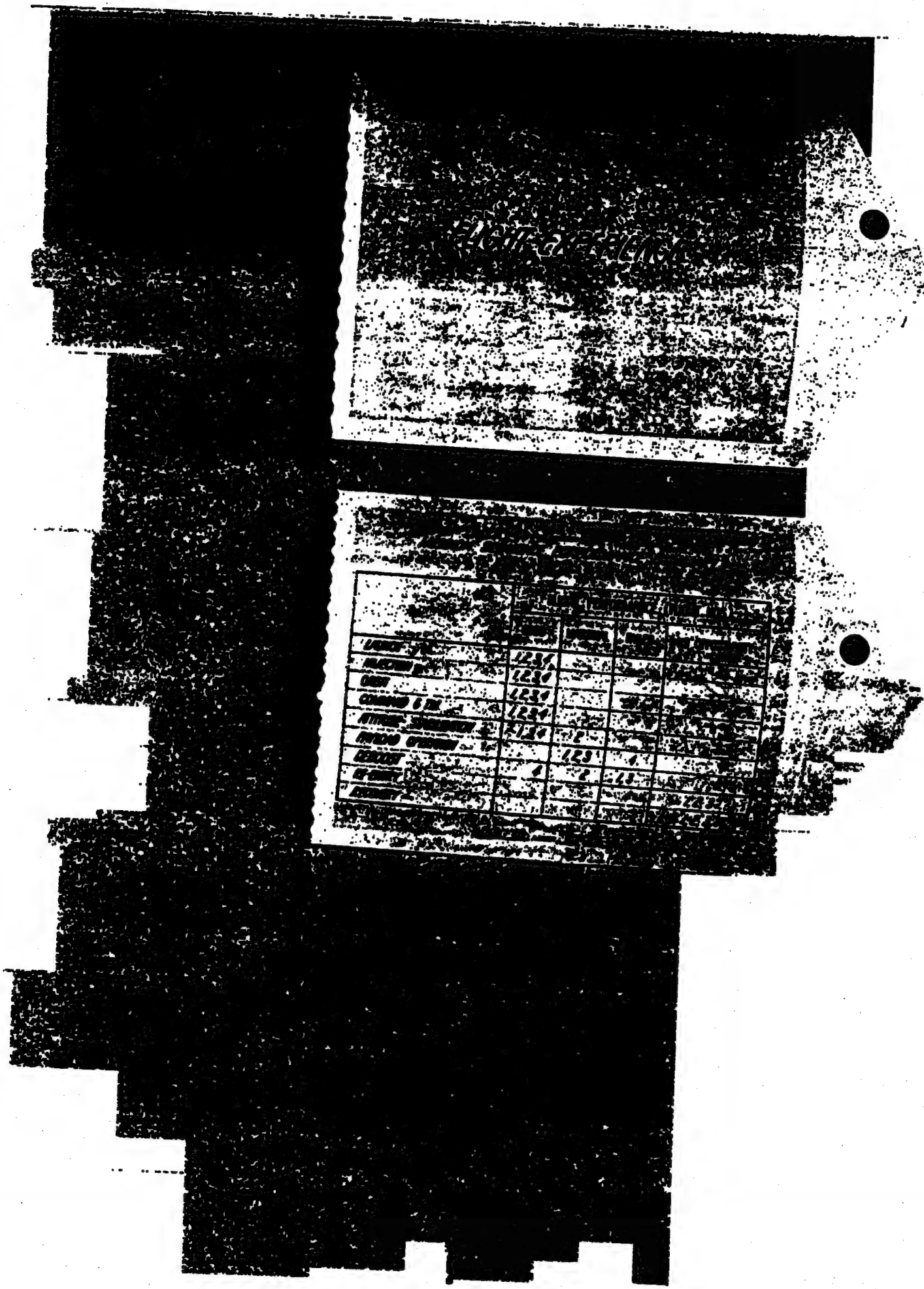
- INABILITY TO CHANGE STORED PROGRAM
- LIMITED STORED PROGRAM CAPACITY
- OVER-TARGET COMMAND DEFICIENCY (OTAC)
- TIMER INACCURACY FOR ULTIMATE LAND RECOVERY
- SECURITY DEFICIENCY



SIGNIFICANT DEVIATIONS FROM SELECTED DESIGN
RE-ENTRY VEHICLE

- SPIN AND DEFINITION - CHANGED TO SPIN SPRINGS & SHAPED CHARGE
- STRUCTURE - SECTIONS INCREASED FROM THREE TO FOUR
- THERMAL - SHIELD CHANGED FROM SINGLE MATERIAL TO PHENOLIC NYLON NOSE & FRUSTRUM MADE OF GE 124-A TRANSPARENT PLASTIC
- LIGHTENED STRUCTURE
- RECOVERY (LAND & WATER)
- DESTRUCT SYSTEM REMOVED

PRESENT SYSTEM
FINAL C&C CONFIGURATION
TRACKING
• KERLOKT
• DOPPLER
COMMAND
• KERLOKT - DIGITAL COMMAND MOD AND
SECURE DECODER FEATURE
TELEMETRY
• PAF - PM/FM
TRACKING STATIONS
• DISCOVERER NET - ANNETTE



MISSION SUMMATION SUBSYSTEM PERFORMANCE

MISSION NO	ATAS	ACMS B	PRECISE VELOCITY	[illegible]	MISSION MODES	C&C*
~1	OK	NG	OK	70%	NA	OK
II	OK	OK	NG	70%	NA	OK
III	OK	NG	OK	70%	NA	OK
IV	OK	OK	OK	80%	NG	OK

NOTE: - *C&C CRAWS SYSTEM STATUS AS SEEN BY COMMAND SECTOR OPERATOR
NG - MINOR MISSION PROBLEM
NA - DATA NOT ACTIVATED

FIRST FLIGHT EXPERIENCE
(ADENA 24A)

PROBLEM	CAUSE	FIX
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

FIRST FLIGHT EXPERIENCE
(PAYLOAD VEHICLE BSI)

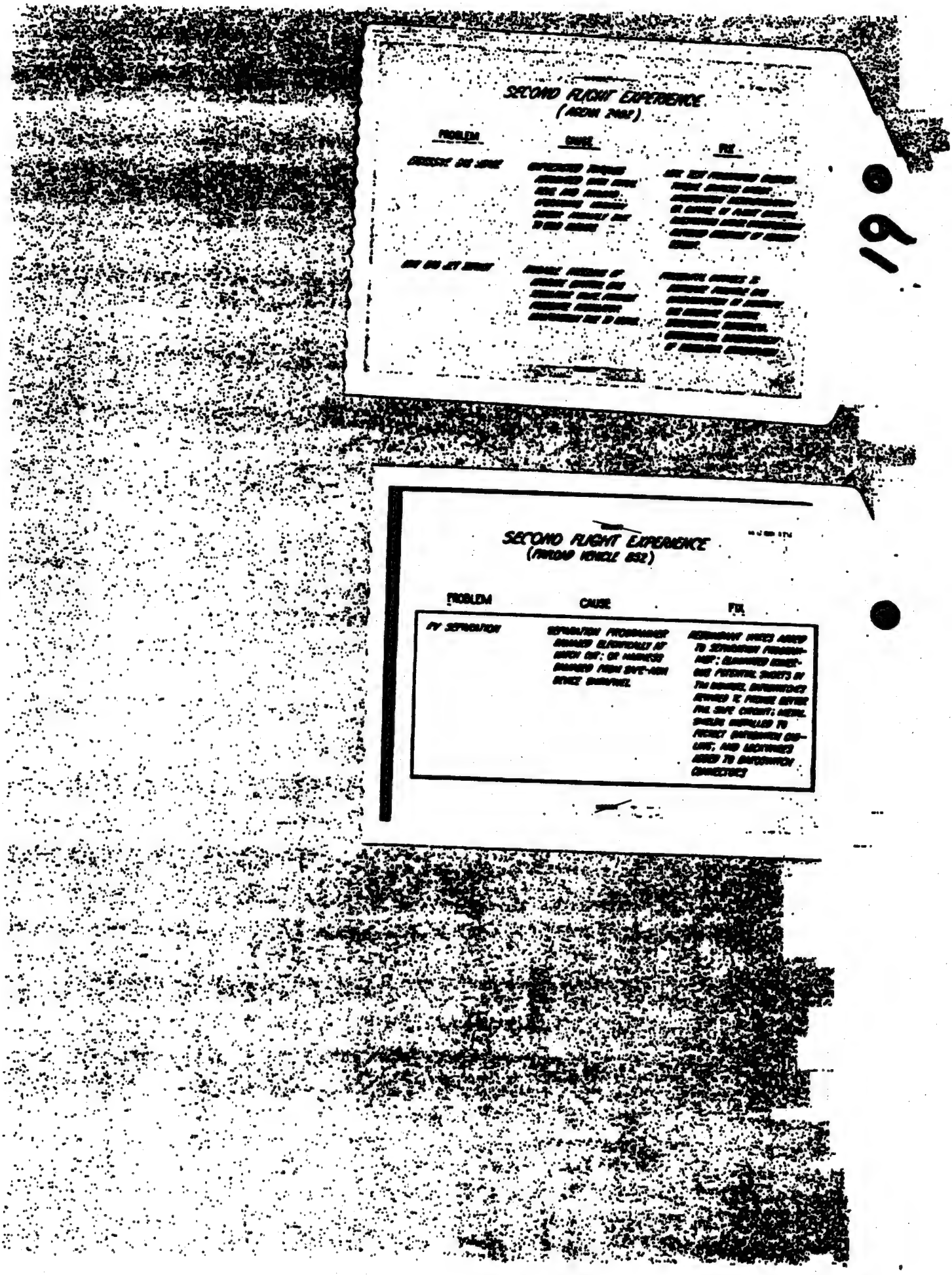
PROBLEM	CAUSE	FIX
UHF DOPPLER BEACON DROP OUT ON PCM U AT ATS	LOSS OF LOCK-ON OR BEACON POWER SUPPLY	MODIFICATION OF TRACKING, SIR PERFORMANCE AND RELIABILITY INVESTIGATION OF UHF BEACON SYSTEM

17

FIRST FLIGHT EXPERIENCE
(PAYLOAD - FM "1")

PROBLEM	CAUSE	FIX
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

18


SECOND FLIGHT EXPERIENCE
(AROUND 2 MAX)
PROBLEM
CAUSE
FIX
SECOND FLIGHT EXPERIENCE
(THROUGH VEHICLE 052)
PROBLEM
CAUSE
FIX
FF SEPARATION
SEPARATION PROGRAMMER ENABLED ELECTRICALLY AT MATE OUT; GE MARKED ENABLED FROM SVIT-ASSY MATE SWITCHES.

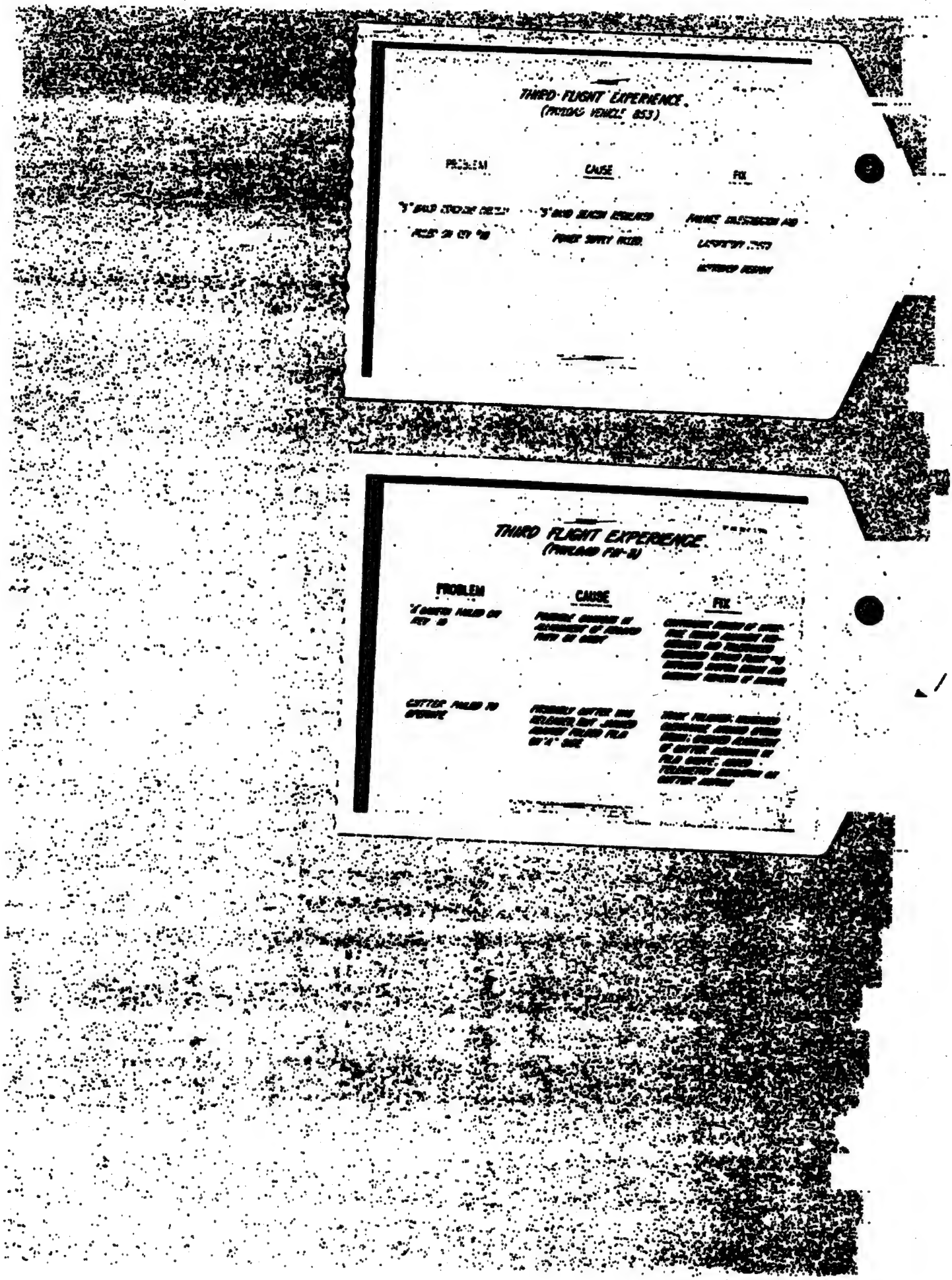
SECOND FLIGHT EXPERIENCE
(NIKE-AJAX FLT #21)

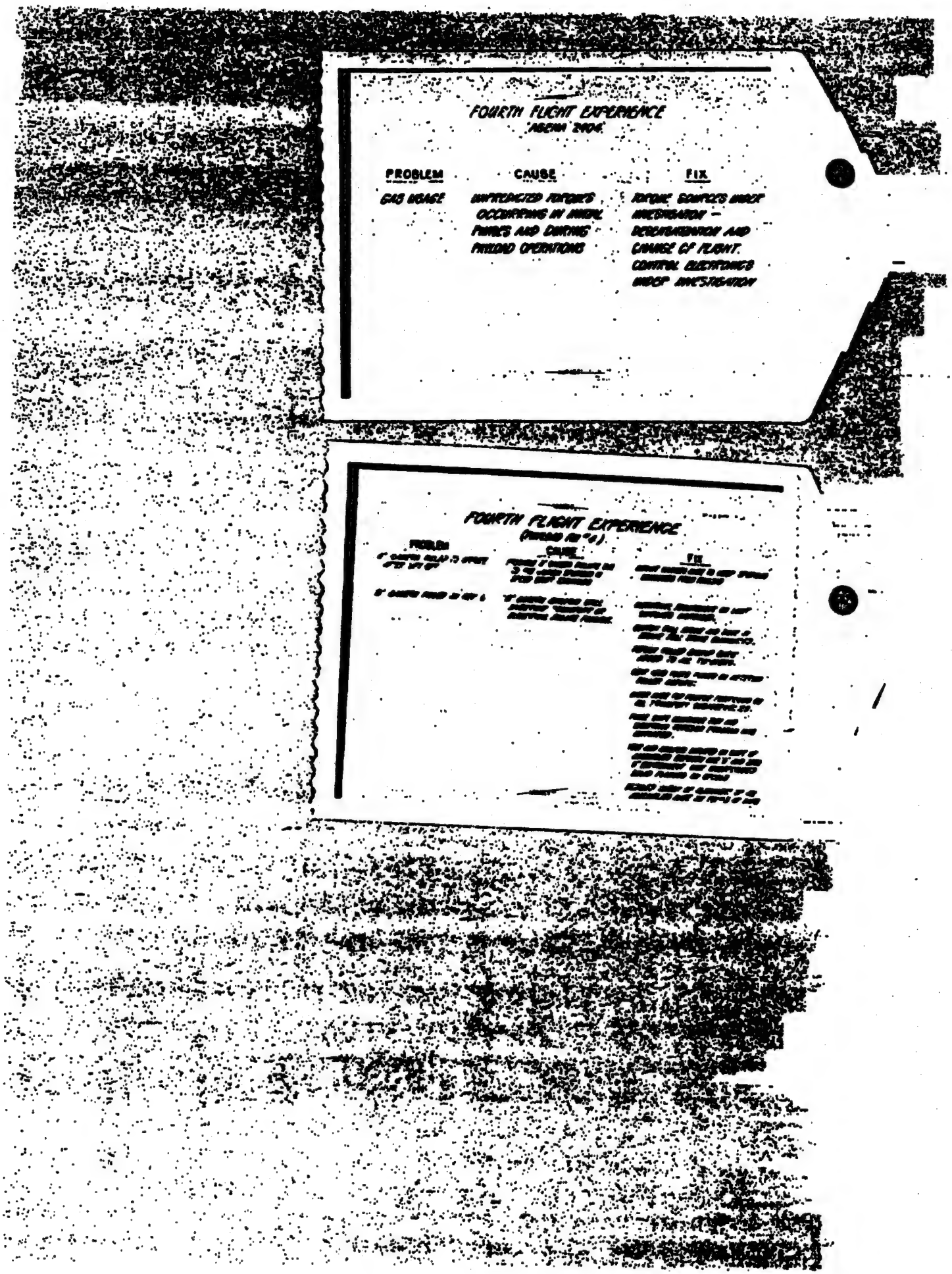
PROBLEM	CAUSE	FIX
'B' CAMLOK FAILED OF FLT 2	TELEMETRY ANTENNA POINT ERROR SUSPECTED TRANSPORT OF ELECTRICAL FAILURE SUSPECTED	TESTING OF IN-FLIGHT TEST PERFORMED AND BAD TESTING
CAPTIVE TELEMETRY FAILURE AT 5.8 SECONDS UNABLE TO OBSERVE CAPTIVE ACTION	CAPTIVE SEAL PART TELEMETRY INFORMATION UNLEARNED	REFINED T/M CHECK OUT PROCEDURE

21

THIRD FLIGHT EXPERIENCE
(NIKE 2169)

PROBLEM	CAUSE	FIX
NO VILLAGE DURING DEBOOST	SHORT IN S/S VALVE CAUSED TRY PREMATURELY ED BOTH S/S AND SOLID VILLAGE ROCKET FROM GROWING	REDESIGNED CIRCUITRY TO COMPLETELY SEPARATE S/S FROM SOLID VILLAGE ROCKET IMPROVED PROPELLANT CHECKOUT OF CIRCUITRY

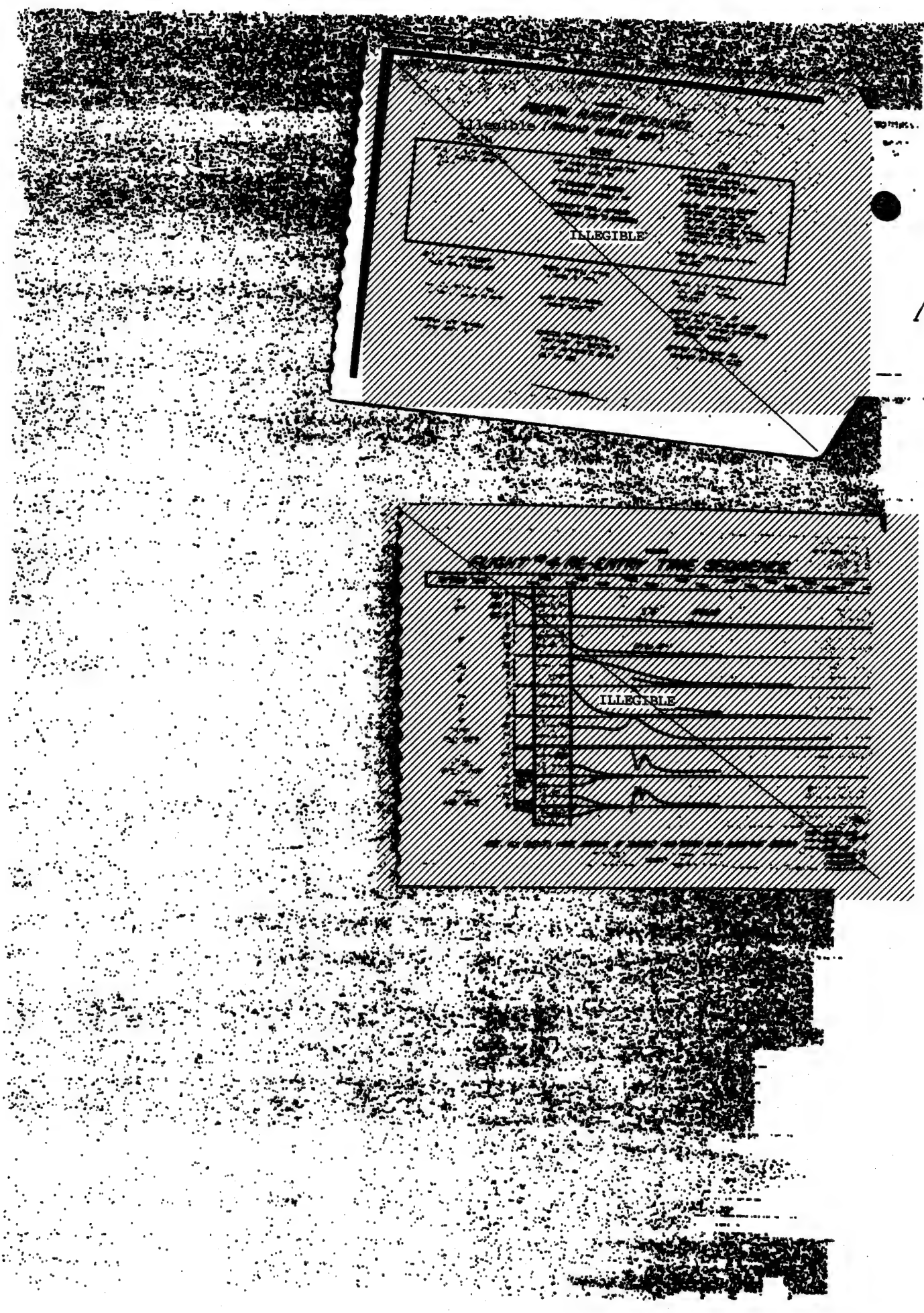

THIRD FLIGHT EXPERIENCE
(PREVIOUS VEHICLE 853)
PROBLEM
CAUSE
FIX
THIRD FLIGHT EXPERIENCE
(THIRLAND FW-1)
PROBLEM
CAUSE
FIX



FOURTH FLIGHT EXPERIENCE
'ASEW' 2404'

PROBLEM	CAUSE	FIX
GAS USAGE	UNANTICIPATED FAILURES OCCURRING IN INERT PHASES AND DURING PAYLOAD OPERATIONS	FAILURE SCANNERS MINOR INVESTIGATION – RECONFIGURATION AND CHANGE OF FLIGHT CONTROL ELECTRONICS MINOR INVESTIGATION

FOURTH FLIGHT EXPERIENCE


ILLEGIBLE
ILLEGIBLE

NOMINAL DATA

- PRE-BLACKOUT AERO-THERMO TRAJECTORY DATA
- POST BLACKOUT THERMO & PRESSURE DATA
- IMPACT

FLIGHT DATA ~ AERO-THERMO PROBLEMS

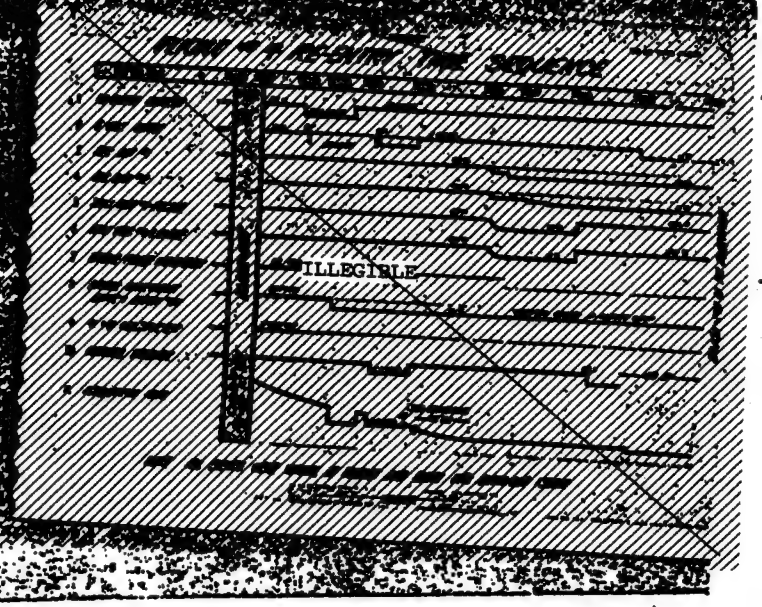
- HIGH ROLL RATE AT END OF BLACK OUT
  - SYSTEM TIME 566
- SUDDEN INCREASE THEN DECREASE IN ROLL RATE
  - SYSTEM TIME 586 - 596
- HIGH LIMSP TEMPERATURE, STATION 134
  - SYSTEM TIME 566
- INDICATED TEMPERATURE INCONSISTENCY IN HEAT SHIELD STATION 63 & 134
- NO THERMAL & PRESSURE DATA AFTER TIME 512

MOTION ANALYSIS

- VARIATION OF AERODYNAMIC COEFFICIENTS – C_{m_q}, $C_{m_{\dot{\alpha}}}$
- VARIATION OF MASS PROPERTIES
- AERODYNAMIC SURFACE TO SIMULATE ROLL
- RYX-2 DATA

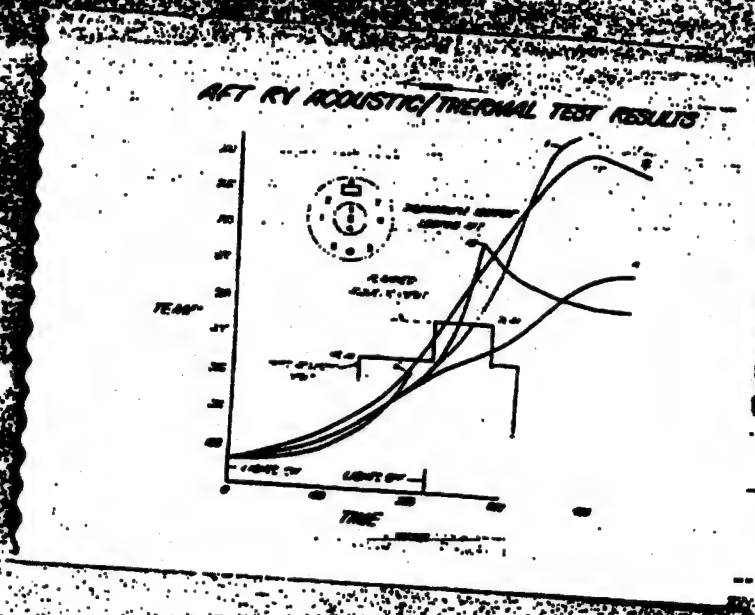
POSSIBLE AERO/THERMO DESIGN PROBLEMS

- AFT BULKHEAD HEAT PROTECTION
- THERMAL PROTECTION OF COMPONENTS IN BALLAST AREA
- ELECTRICAL CABLE NEAR EXIT OF VENT VALVE
- RE-ENTRY VEHICLE OSCILLATION EFFECTS



ADDITIONAL SYSTEM TESTS NEEDED PRIOR TO FLIGHT

1. ACOUSTIC/THERMAL TESTS OF AFT RV
2. RV SEPARATION - ATMOSPHERIC & VACUUM


AFT RV ACOUSTIC/THERMAL TEST RESULTS
TEMP
TIME

ATLAS GUIDANCE MECHANIZATION PROBLEM

- MARINER I FAILURE INVESTIGATED
  (GUIDANCE EQUATIONS MECHANIZED TO RESPOND IMPROPERLY TO POOR DATA)
- DIFFERENT PROGRAMMING DISCREPANCY DISCOVERED FOR PROGRAM 638 DJ
  (RESULTING IN SIMILAR PROBLEM)
- INTERIM FIX IMPLEMENTED FOR FLIGHT NO. 5
  (REDUCES PROBABILITY OF FAILURE TO NEGLIGIBLE PROPORTION)
- FINAL FIX WILL BE IMPLEMENTED FOR FLIGHT NO. 6

SPECIAL EFFORT GENERATED BY FLIGHT EXPERIENCE
SYSTEM

- COMPLETE REVIEW OF SYSTEM DESIGN AND PROCEDURES BY CONTRACTORS AND AIR FORCE/AEROSPACE
  - FACTORY AND VENDORS
  - MAB
  - PAD

SPECIAL EFFORT GENERATED BY FLIGHT EXPERIENCE
AGENA

- GAS REGULATOR FREEZING TESTS
- GAS VALVE VIBRATION TESTS
- SOLID ENGINE BRACKET VIBRATION TESTS
- ANALOG STUDIES OF ATTITUDE CONTROL

SPECIAL EFFORT GENERATED BY FLIGHT EXPERIENCE
PAYLOAD VEHICLE

- RELIABILITY TRADES "S" BAND BEACON REGULATED POWER SUPPLY
  - FACTORY TESTS, EXTENDED DUTY CYCLE
  - FAILURE HISTORY
- RELIABILITY TRADES, DOPPLER BEACON AND POWER SUPPLY
  - FACTORY TESTS
  - FAILURE HISTORY
- SHAKEDOWN OVERTEST OF REVOLUTION PROGRAMMER

SPECIAL EFFORT GENERATED BY FLIGHT EXPERIENCE
RECOVERY VEHICLE

- RESEARCH PROGRAM ON AERODYNAMIC AND THERMODYNAMIC PROBLEMS
- RECOVERY SYSTEM: AEROSPACE INSPECTION, PACKING AND DEPLOYMENT TESTS (FLIGHT HARDWARE)
- LABORATORY TESTS OF NEW THERMAL COATING RTV 60 PLUS MICROBALLOON (PD-300)
  - SHOCK TESTS
  - VIBRATION
- OVEN TESTS OF PYROS SUBJECT TO WAKE HEATING
- CALORIMETER CALIBRATION TEST, FLUX RATE AND INTEGRATION

SPECIAL EFFORT GENERATED BY FLIGHT EXPERIENCE
PAYLOAD

- DETERMINATION OF ATTITUDE EFFECT ON RECORD TRANSPORT
  - INVERTED TESTS, DYNAMIC, STATIC
  - REFLECTION MEASUREMENTS AND ANALYSIS
- SPECIAL RECORD RUNS WITH COVERS REMOVED
  - HORIZONTAL
  - VERTICAL

FLIGHT ~~5~~ READINESS

- ATLAS
  HIGH CONFIDENCE THAT SUCCESSFUL BOOST WILL BE OBTAINED
- AGENA
  HIGH CONFIDENCE THAT SUCCESSFUL INJECTION/ ON-ORBIT/DEBOOST PERFORMANCE WILL BE OBTAINED
- PAYLOAD VEHICLE
- PAYLOAD
  HIGH CONFIDENCE THAT AT LEAST ONE CAMERA WILL OPERATE THROUGH MISSION

PERFORMANCE COMPARISON WITH OTHER PROGRAMS

SUBSYSTEM	PROGRAM 698BJ	OTHER PROGRAMS	REMARKS
ATLAS	100%	60%	LAST 20 ATLAS SHOTS
AGENA	50%	60%	DISCOVERER SHOTS THROUGH EJECTION
PV	75%	NO DATA AVAILABLE	
PL	61%	NO DATA AVAILABLE	
RV	INSUFFICIENT DATA	88%	DISCOVERER RE-ENTRY AND RECOVERY
C&C	≈ 100%	≈ 100%	
BEST ESTIMATE OF OVER-ALL PERFORMANCE	< 23%	< 3%	

PROPOSED SYSTEM MODIFICATIONS

TYPICAL SEQUENTIAL WEIGHT STATEMENT
28° INCLINATION - ATLAS / AGENA B 800 FT/SEC BOOST

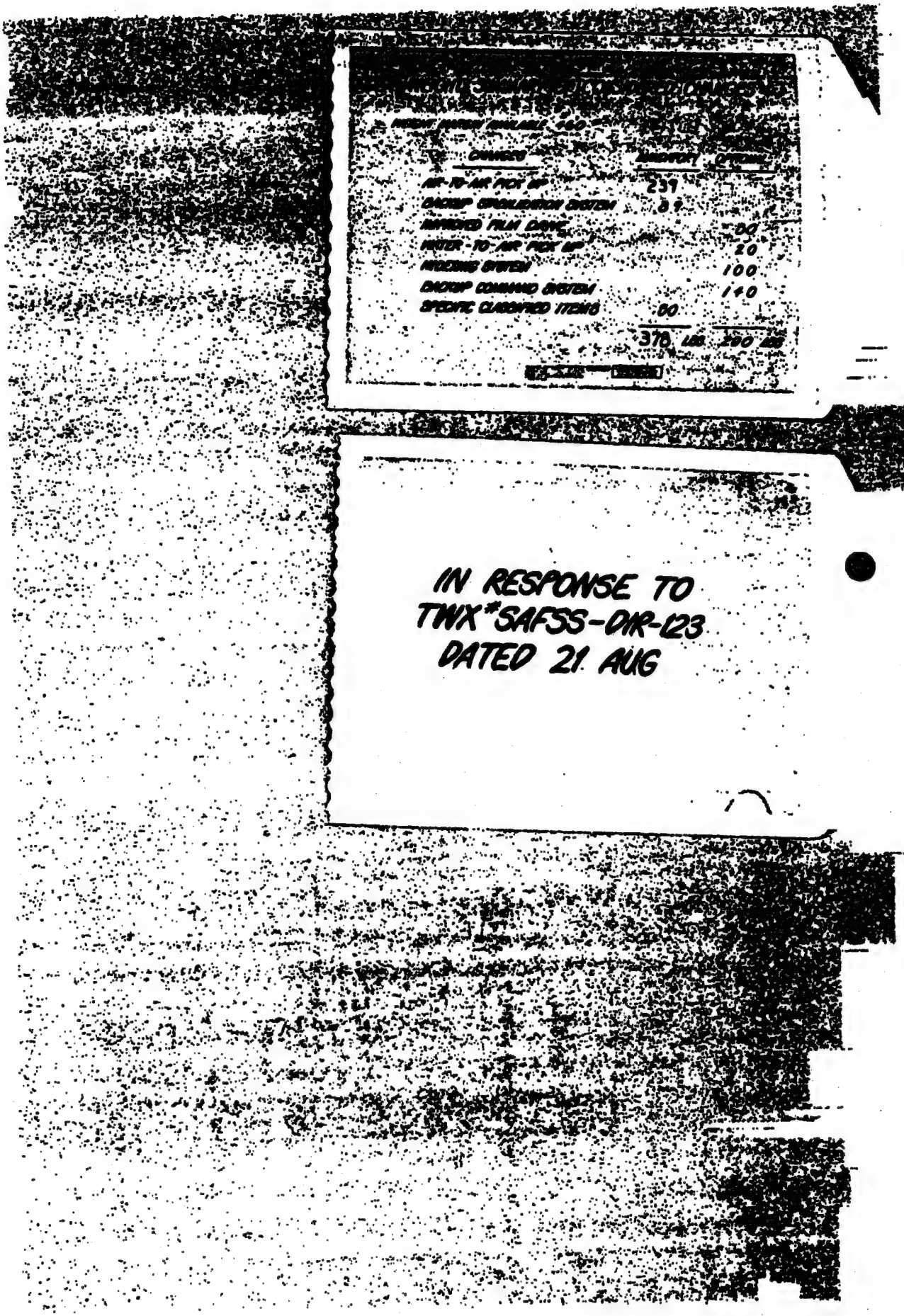
ON STAND GROSS WEIGHT	258,840 LBS
OVERLITE VEHICLE AT SEPARATION FROM ATLAS	18,620 LBS
OVERLITE VEHICLE AFTER FIRST BURN	6,820 LBS
OVERLITE VEHICLE AFTER DE-BOOST	6,810 LBS
UNUSED PROPELLANTS @ ADDITION TO 3σ MARGINS (CONVERTED TO ADDITIONAL)	460 LBS
[illegible] AFTER SEPARATION	1,315 LBS
[illegible]	[illegible]

PROGRAMMED SYSTEM CHANGES

- INCORPORATE ABORT B - DIRECTED
  FLT #9 AND SUBSEQUENT
- INCORPORATE INDEX SYSTEM - DIRECTED
  FLT #10 AND SUBSEQUENT (180 POUNDS) - OPTIONAL
- INCORPORATE SECONDARY COMMAND SYSTEM - INCREASED CONFIDENCE
  FLT #6 AND SUBSEQUENT (140 POUNDS)
- DELETE SECONDARY PROPULSION SYSTEM - NO ORBIT ADJUST
  FLT #10 AND SUBSEQUENT
- ADD BACKUP ATTITUDE CONTROL AND ENGINE SEQUENCING AT RESIDUST - IMPROVED RELIABILITY
  FLT #12 AND SUBSEQUENT (185 POUNDS)

SYSTEM CHANGES UNDER CONSIDERATION

- INCORPORATE AIR TO AIR RECOVERY
  FLT 10 AND SUBSEQUENT (251 POUNDS).
- INCORPORATE WATER TO AIR PICKUP
  FLT 10 AND SUBSEQUENT (20 POUNDS)
- INCORPORATE TELEMETRY & TRACKING SATELLITE
  FLT 10 AND SUBSEQUENT (55 POUNDS)
- ADDITION OF VARIOUS CLASSIFIED ITEMS
  FLT 10 AND SUBSEQUENT (30-300 POUNDS)



IN RESPONSE TO
TWX *SAFSS-DIR-123
DATED 21 AUG

FEASIBILITY OF ALTERNATE SYSTEMS

BALANCED DISCOVERER RV (BIG D) WITH ATLAS/AGENA BOOST

PUT WEIGHT TOWARDS PAYLOAD 3500 LBS ——— 150 LB ±

LESS AGENA WEIGHT PROPELLANTS ——— 4000 LB

ALT WEIGHT AND FUEL FOR 5 DAYS ——— 1100 LB

ESTIMATED TIME TO FLIGHT ——— 12 MOS

ESTIMATED COST ——— 95 M

CONCLUSION: ATTRACTIVE BOOSTER FUNCTIONAL

BIG "D"

36-A

BIG D

WEIGHT BREAKDOWN

● [illegible]		
PAYLOAD (ONE ASSY.)		95.0
HEAT SHIELD ASSY.	238.5	
FOREBODY STRUCTURE	238.5	
ELECTRICAL INSTALLATION RECOVERY	269.5	
SEPARATION, INTERNAL COVER		
STEERING SYSTEM	618.5	
● ADAPTER SECTION	30.0	
AFTERBODY STRUCTURE		1205.0
● AFTSECTION	30.0	
STEERING EQUIPMENT		1702.0
SECONDARY COMMAND SUBSYSTEM	40.0	
● PAYLOAD VEHICLE	10.0	
RECORD		2872.0
● PAYLOAD VEHICLE WITH RECORD		314.0
● RESPECTED WEIGHT- LESS: HEAT SHIELD		3186.0
INSERT CORE		
OTHER MISC.		
		700.0

FEASIBILITY OF ALTERNATE SYSTEMS (CONT'D)

AUGMENTED THOR/AGENA BOOST (THREE VERSIONS)

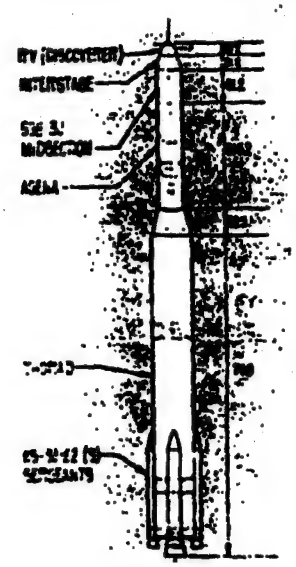
PAYLOAD CAPABILITY (WEIGHT ABOVE AGENA)

120 NM POLAR ORBIT ..... 1700 LB

WEIGHT OF CURRENT PVP AND RV

ABOVE AGENA ..... 3330 LB

WEIGHT OF BIG D WITH CURRENT PVP ..... 3130 LB



MODIFIED 698 BJ PAYLOAD ON AUGMENTED THOR / AGENA

- THE PAYLOAD FORWARD OF THE AGENA INTERFACE MUST WEIGH LESS THAN 1700 POUNDS
- A FEASIBLE PAYLOAD IS
  - EXISTING G.E. MODSECTION
  - EXISTING E.K. STRUCTURE LESS SECTION B ASSEMBLY, RECORD A, OR LOADING OF RECORD A
  - USE OF EXISTING DISCOVERER RV TO RETAIN 311 POUNDS OF RECORD A
- REQUIRES COMPLETE PAYLOAD REPACKAGING, DESIGN OF NEW INTERSTAGE, DESIGN OF NEW TAKE UP CASSETTE, & MODIFICATION TO DISCOVERER RV TO RECEIVE RECORD
- STORED DATA NOT OBTAINED, COVERAGE REDUCED TO ONE HALF MISSION REQUIREMENT

MODIFIED 698 BJ PAYLOAD ON AUGMENTED THOR/AGENA

WEIGHT STATEMENT

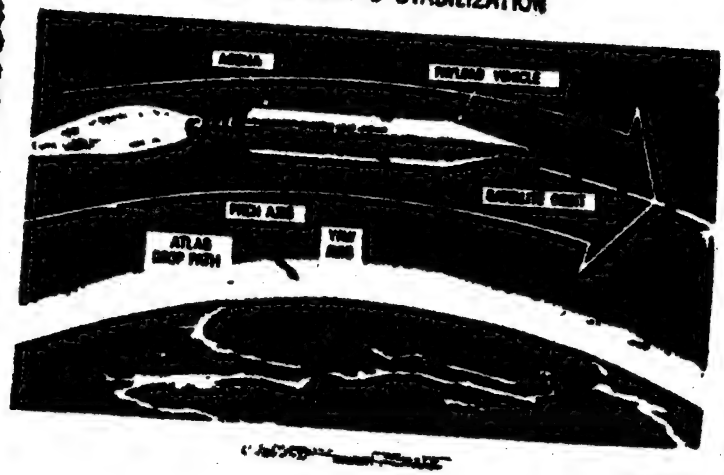
• E.K TOTAL LAUNCH WEIGHT (M.B ONLY)	[illegible]
• PAYLOAD MODSECTION WT (INCLUDING 111 LB RECORD)	659
• CASSETTE UNITS & ASSOCIATED STRUCTURE IN RV	61
• G.E MODSECTION	565
• INTERSTAGE (M.B TO RV)	60
• DISCOVERER PACKAGE (STRUCT & RECOVERY SYSTEM, NO PAYLOAD)	285
• TOTAL SYSTEM WEIGHT	1630
ALLOWABLE WEIGHT	1700
RESERVE	70

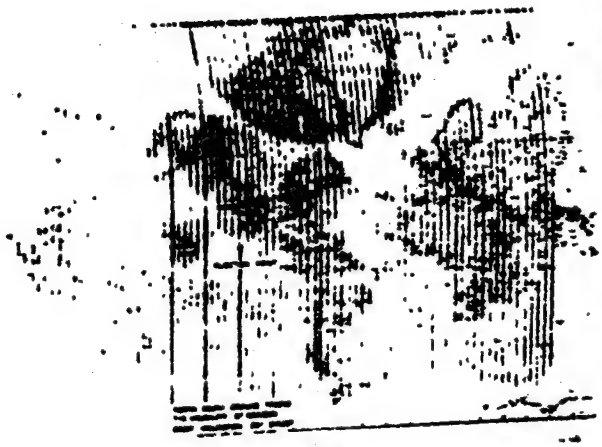
FINAL PAYLOAD CONFIGURATION

- TWO 36 INCH FOCAL LENGTH CAMERAS 100% STEREO
- CAMERAS ORIENTED NEAR HORIZONTAL
- 15 RPC SPEEDS
- CYLINDRICAL STRUCTURE
- TWO WINDOWS WITH THERMAL SHADES
- INDEPENDENT CAMERA OPERATION
- 13000 FEET OF 6 6 INCH WIDE FILM (8012)
- SINGLE CUTTER AND SEAL

POWERED FLIGHT

ORBITAL BOOST & STABILIZATION

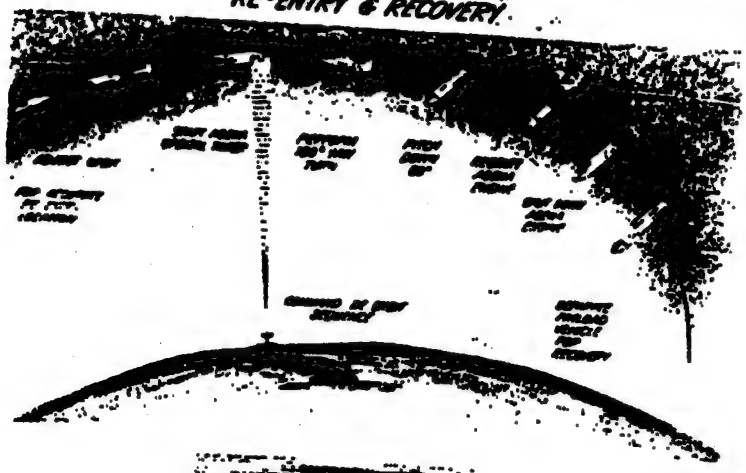




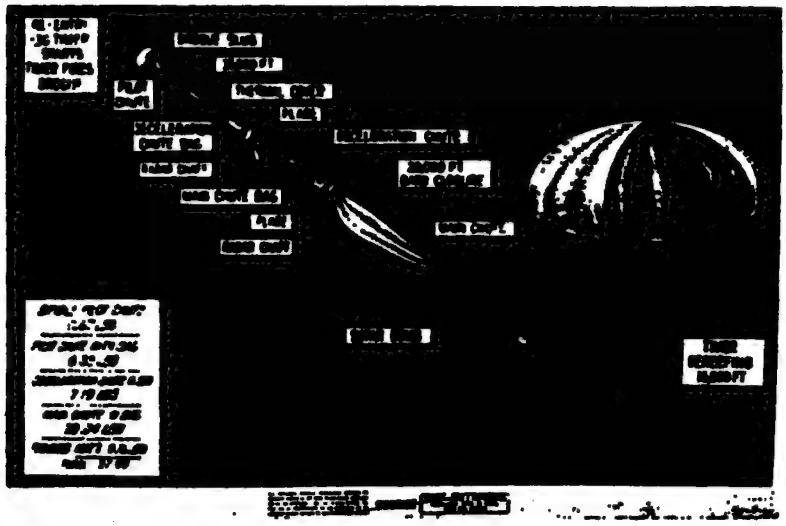
SECRET

PROGRAM 698 BJ MISSION PROFILE

RE-ENTRY & RECOVERY



PROGRAM 698 BJ RECOVERY SYSTEM



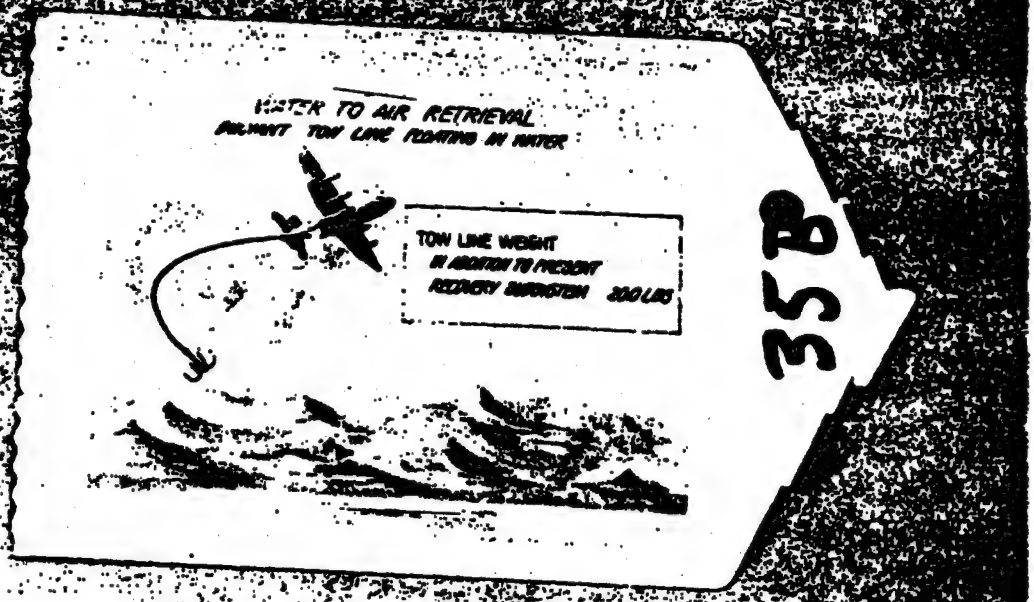
MODIFIED E-5 RECOVERY SYSTEM

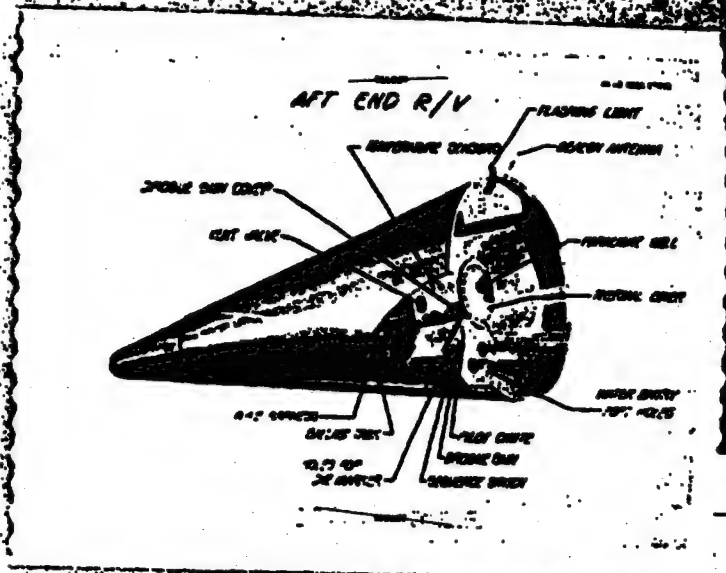
RECOVERY SYSTEM

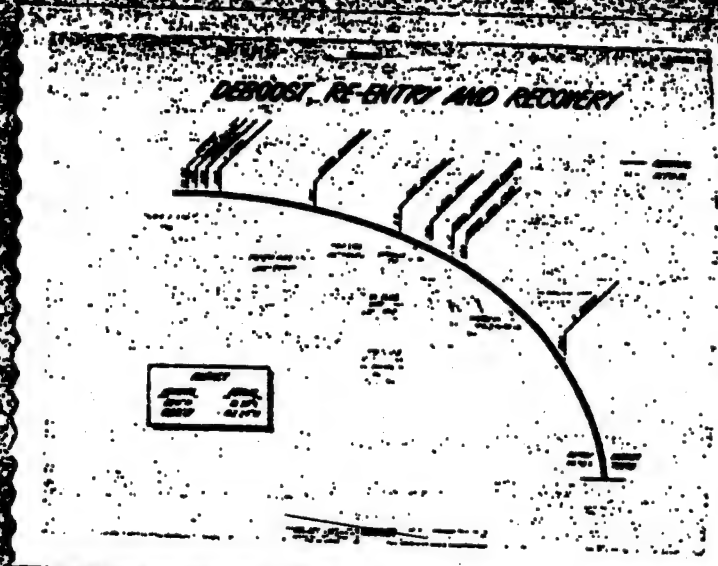
E-5	MODIFICATION	REASON
RECOVERY CHUTE, 64 FT DIA DRAG PARA CHUTE	RECOVERY CHUTE 64 FT DIA REMOVE DRAG CHUTE	OPERATIONAL REQUIREMENT

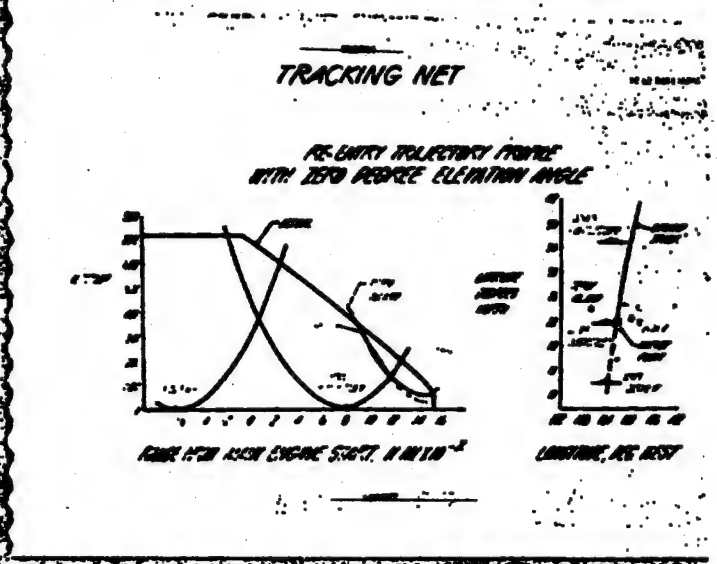
SEQUENCE OF EVENTS

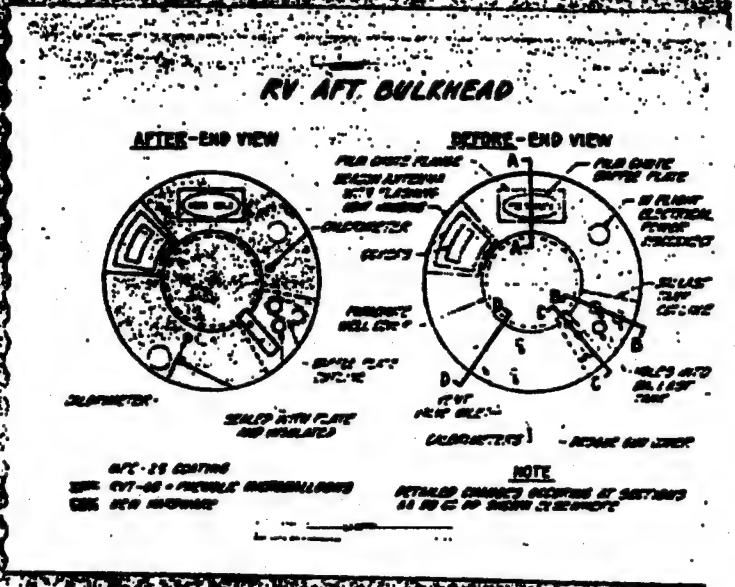
COMPONENTS	ACTIVITY DELAYED	TIME (SEC)
APOGEE PITOT PORT COVER, ORIENTATION CHUTE	100,000 FT	0
PILOTED AIR PICK-UP CHUTE	64,000 FT	8
RECOVERY AIR PICK-UP & RECOVERY MAIN CHUTE	40,000 FT	18
FULLY OPENED AIR PICK-UP CHUTE & RECOVERY MAIN CHUTE	30,000 FT	22
FULLY OPENED AIR PICK-UP & MAIN CHUTE	24,000 FT	29
IMPACT TO	10,000 FT	1000
	IMPACT	1060

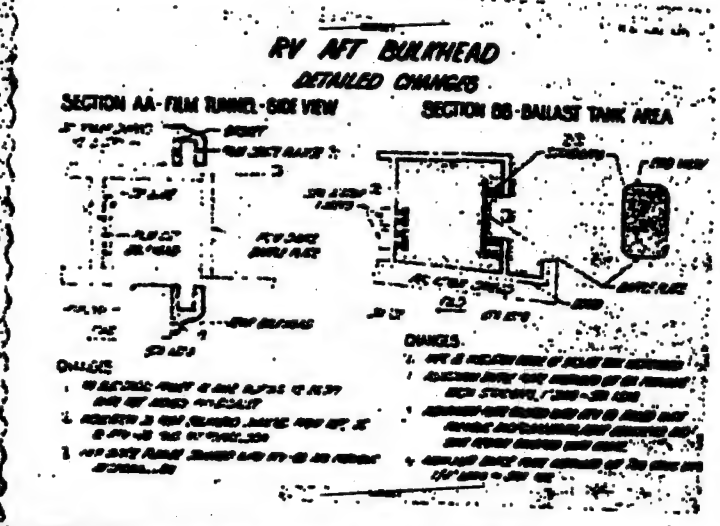

WATER TO AIR RETRIEVAL
TOW LINE WEIGHT
35B

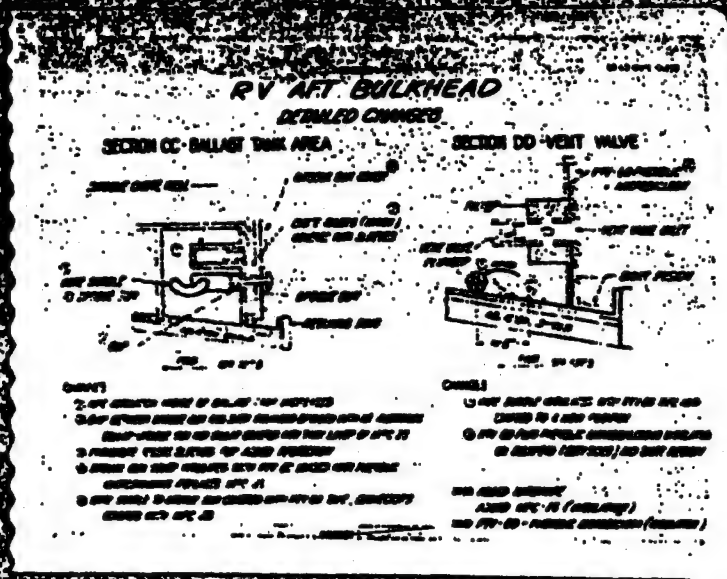

AFT END R/V
FLASHING LIGHT

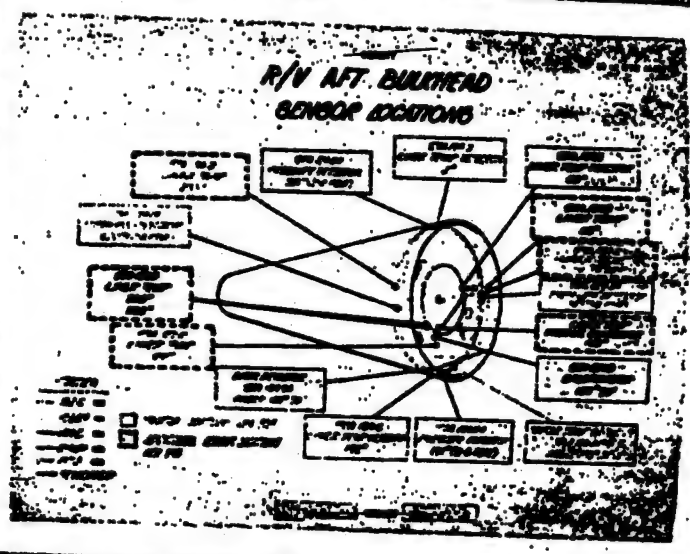

DEBOOST, RE-ENTRY AND RECOVERY

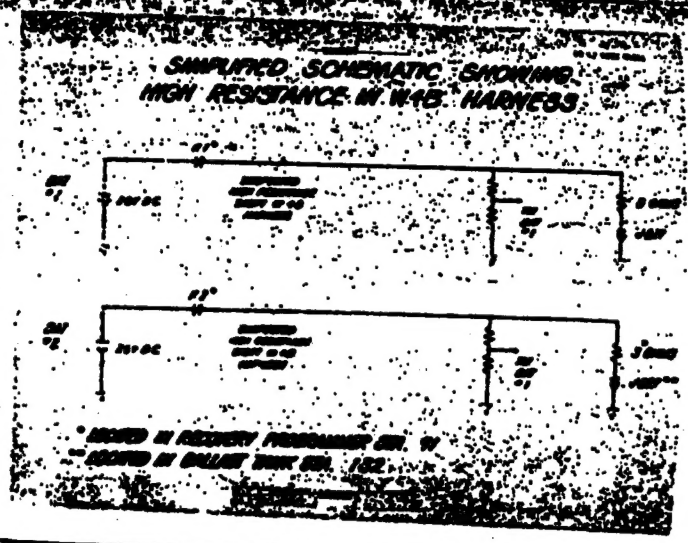

TRACKING NET
RE-ENTRY TRAJECTORY PROFILE
WITH ZERO REDUCE ELEVATION ANGLE


RV AFT BULKHEAD
AFTER-END VIEW
FORWARD-END VIEW
NOTE


RV AFT BULKHEAD
DETAILED CHANGES
SECTION AA-FILM TUNNEL-SIDE VIEW
SECTION BB-BALLAST TANK AREA
CHANGES


R/V AFT BULKHEAD
DETAILED CHANGES
SECTION CC - BALLAST TANK AREA
SECTION DD - VENT VALVE


R/V AFT BULKHEAD
SENSOR LOCATIONS



MODIFICATIONS TO MSFN: PREFLIGHT SYSTEMS CHECKOUT

IMPLEMENTED

- TEST IONIZATION SENSOR FOR CLIPPING LEVEL
- REVISED SPECIFICATION & PROCEDURES TO OBTAIN CLEAN, DRY ATTITUDE CONTROL GAS
- REVISED ATTITUDE CONTROL SYSTEM CONDITIONING, HANDLING, & TESTING TO MORE RIGOROUS ALLOWED LIMITS OF CONTAMINATION & LEAKAGE
- REVISED SPS TESTING TO INCLUDE COMPLETE END TO END TEST

IN PROGRESS OR UNDER CONSIDERATION

- REVALIDATION OF CIRCUITS AFTER FINAL MATING
- REDESIGNED MAIN ENGINE FUNCTIONALS & PID SIMULATED FLIGHT TEST TO ELECTRICALLY VALIDATE SYSTEM PRIOR TO LAUNCH
- REVIEW ENGINE SIMULATOR FOR CIRCUIT APTNESS
- DEVELOP PROCEDURES TO CHECK REDUNDANT CIRCUIT CLOSE

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MODIFICATIONS TO PAYLOAD PREFLIGHT SYSTEM CHECKOUT

- ALL TRANSPORT LIMIT SWITCHES CHECKED FOR ADJUSTMENT
- CAPACITORS SUBJECTED TO AMBIENT-VACUUM CYCLE BEFORE INSTALLATION
- ALL RECORD TRANSPORT ASSEMBLIES POSITIVELY ALIGNED AND PINNED
- SOLAR FLANGES ADDED
- SPECIAL TESTS FOR PW #5

A. STARTING WITH 6500 FT AND SOLID FLANGES TO REDUCE RECORD DEFLECTION, THE FOLLOWING PROGRAM WAS RUN:

(1) 1000 FT TAPE UP IN MAG AREA-PE ONLY

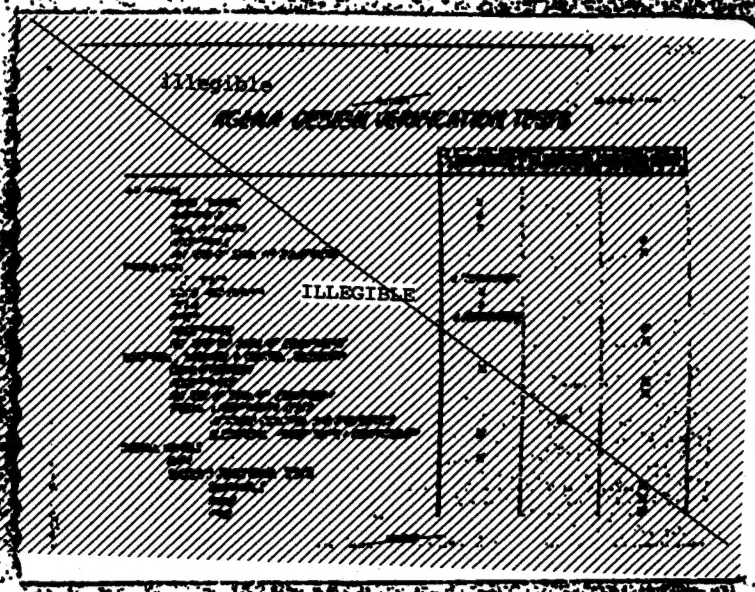
(2) 3000-FT MARKED WITH PW, HORIZONTAL RUN

(3) 000 FT MARKED WITH PW VERTICAL RUN

(4) 6000+ MARKED WITH PW HORIZONTAL

TRACKING VERY GOOD, NO ALIGNMENT PROBLEMS

B. FLIGHT LOAD OF 6450 FT AND SOLID FLANGES INSTALLED, PRELIMINARY ALIGNMENT TESTS ARE GOOD APPROXIMATELY 2300 FEET PER CAMERA TO BE RUN IN MAG TESTS TO CONFIRM ALIGNMENT



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